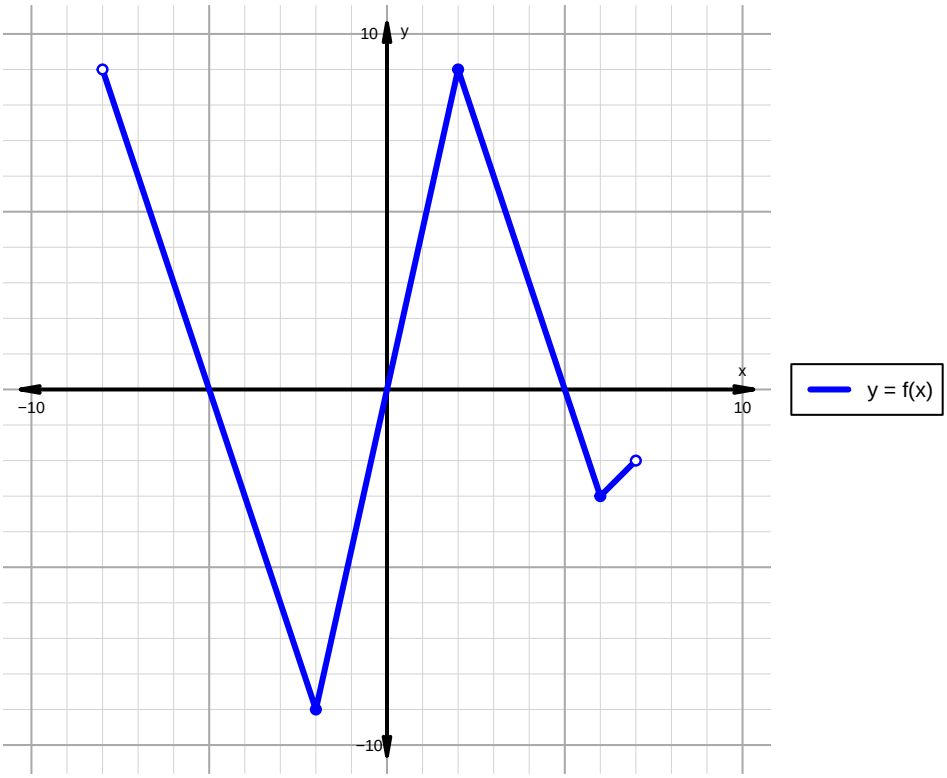
Name: Date:

Intervals, Transformations, and Slope Solution (version 132)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-8,-5)\cup(0,5)$
Negative	$(-5,0)\cup(5,7)$
Increasing	$(-2,2)\cup(6,7)$
Decreasing	$(-8,-2)\cup(2,6)$
Domain	$(-8,7)$
Range	$(-9,9)$

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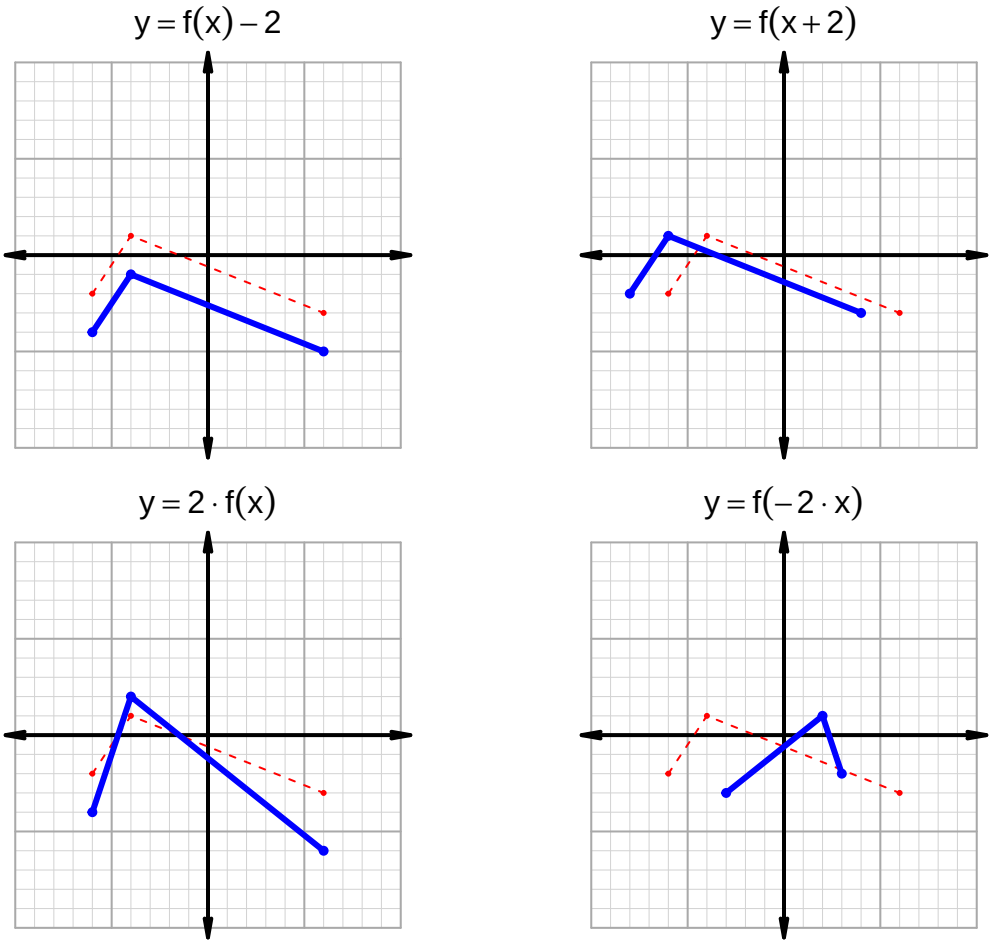
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 29$ and $x_2 = 65$. Express your answer as a reduced fraction.

x	$g(x)$
7	29
29	88
65	7
88	65

$\frac{f(65)-f(29)}{65-29} = \frac{7-88}{65-29} = \frac{-81}{36}$

The greatest common factor of -81 and 36 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-9}{4}$$